REMARKS / DISCUSSION OF ISSUES

The present amendment is submitted in response to the Non-Final Office Action having a mailing date of September 29, 2011. In view of the amendments above and remarks to follow, reconsideration and allowance of this application are respectfully requested

Status of Claims

Upon entry of the present amendment, claims 29-54 will remain pending in this application. Claims 29 and 46 have been amended. Applicants respectfully submit that no new matter is added by the present amendments.

Interview Summary

Applicants appreciate the courtesy granted to Applicant's attorney, Michael A. Scaturro (Reg. No. 51,356), during a telephonic interview conducted on Monday, November 21, 2011. During the telephonic interview, a proposed amendment to claim 29 was presented. The Examiner indicated that the proposed amendment, as modified during the discussion, appeared to overcome the cited and applied art, however, a further search would be required.

Claim Rejections under 35 USC §103

I. In the Office Action, Claims 29, 30, 33, 36, 39, 41-46 and 49-54 stand rejected under 35 U.S.C. §103 (a) as being unpatentable over U.S. Patent No. 6,593,904 ("Marz") in view of U.S. Patent No. 6,801, 220 ("Greier").

In order to maintain a valid obviousness rejection, the Office Action must show: 1) that the prior art teaches all of the claimed limitations and 2) that is some reason to modify the prior art to produce the claimed invention. See MPEP §2141. It is respectfully submitted that the Office Action fails to satisfy at least the first requirement. Specifically, Applicant asserts that Marz and Greier, taken alone and in any combination, fail to teach or suggest all of the claimed limitations of Applicant's independent claim 29,

as amended herein. Accordingly, among the limitations of independent claim 29 which are neither taught nor suggested by Marz and Greier, taken alone an in any combination, are: "*wherein said compensation comprises using a different range of driving voltages for each pixel in a pixel group such that the T-V characteristic for each pixel in the group is closely matched.*"

Support for the foregoing amendment may be found at least in Fig. 3 and paragraphs [0033], [0034], [0035], [0036], [0037] of the US patent application publication of the present invention. The invention utilizes a different range of driving voltages for the different pixels in the group such that the T-V characteristic for each pixel is more closely matched.

> [0033] FIG. 3 shows transmission (T) versus voltage (V) characteristics 30 for a display panel 15 in the form of a 90 degree twisted nematic LCD. The first curve 31 (solid line) is the **T-V characteristic** for a viewing angle .phi.=0 degrees (e.g. pixel 0). The second curve 32 (broken line) is the **T-V characteristic** for a viewing angle .phi.=50 degrees (e.g. pixel 5). It will be noted that the variation in transmission coefficient for a pixel viewed at .phi.=0 is such that to obtain a suitable grey scale range an operating voltage of between 0 and V1 is suggested, depending on the grey scale value required to be displayed. However, it will be noted that use of the same voltage range to drive pixel 5 will result not only in a different set of grey scale values for a given drive voltage, but even a grey scale inversion in that the slope of the **T-V characteristic** is reversed.
>
> [0034] In accordance with the invention, it is thus proposed to use a different range of driving voltages for pixel 5 (.phi.=50 degrees), namely that portion lying between V1 and V2, so that the **T-V characteristic** for pixel 5 is more closely matched to that of pixel 0.
>
> [0035] More generally, an appropriate portion of the **T-V characteristic** may be selected for each viewing angle .phi..sub.0 to .phi..sub.7 (or for as many angles as are present in the display panel).
>
> [0036] Yet more generally, compensation may be made for the variations in slope of the different **T-V characteristic**s of each viewing angle.
>
> [0037] Where the **T-V characteristic**s of two different viewing angles are sufficiently

close, a common voltage range and/or compensation may be made for those two viewing angles.

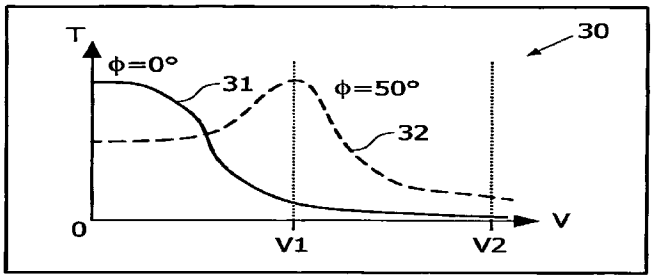


FIG.3

In the Office Action, Greier is cited for curing a deficiency in Marz. In particular, Greier is cited for allegedly teaching a grey scale compensation device for optimizing grey scale rendering by compensating for variations in slope of the different transmission-voltage (T-V) characteristics of each viewing angle such that a grey scale displayed by said plurality of groups is independent of the viewing angle, wherein a correction applied to each of the plurality of pixels within the group is different. The Examiner refers the applicants to Greier at col. 10, lines 4-13, 20-36 and lines 47-65, col. 11, lines 7-13, col. 11, line 66 – col. 12, line 21, col. 12, line 61 to col. 13, line 10, col. 13, lines 46-60 and col. 15, lines 12-26. It is alleged that Greier teaches that the T-V characteristics of and LCD vary at certain viewing angles such that within certain viewing angle ranges, the image is not displayed well, and by **adjusting the grey level** of all pixels to either a higher or lower level, the error can be corrected. Greier teaches that each pixel is individually adjusted to **a different level** according to a selected pattern to correct the T-V graph, i.e., slope, and to ensure that the image is displayed in a way that the viewer is able to see the image without flicker or error in grey level.

Greier teaches that according to a method of generating an improved image, intensity values associated with the data elements of an image are modified to **reduce the number of mid-tone intensity values between the bright and dark intensity values**.

Intensity values are modified according to the dependence of subpixel luminance on intensity and at least one viewing angle of the liquid crystal display. Intensity values are also modified according to other defined conditions on the data elements of the image. For example, if the data elements of a portion the image meet certain criteria, there is no modification of the intensity values. *See* Greier, Summary. The Greier reference, however, does not teach or suggest, *wherein said compensation comprises using a different range of driving voltages for each pixel in a pixel group such that the* ***T-V characteristic*** *for each pixel in the group is closely matched,* as claimed. As described above, compensation in Greier merely comprises **reducing the number of mid-tone intensity values between the bright and dark intensity values** and does not comprise using a different range of driving voltages for each pixel in a pixel group**.**

Based on the foregoing, it is respectfully submitted that the display device of claim 29 is not anticipated or made obvious by the teachings of Marz and Greier, taken alone and in any combination. Accordingly, the Applicants respectfully submit that independent claim 29 is patentable over Marz and Greier and claims 30, 33, 36, 39, 41-45 are allowable, at least by virtue of their respective dependence from claim 29. Thus, the Applicant respectfully requests the withdrawal of the rejection of claims 29, 30, 33, 36, 39, 41-45 under §103(a).

Independent Claims 46 recites similar subject matter as Independent Claim 1 and therefore contains the limitations of Claim 1. Hence, for at least the same reasons given for Claim 1, Claim 46 is believed to recite statutory subject matter under 35 USC 103(a). Claims 49-54 are allowable, at least by virtue of their respective dependence from claim 46. Thus, the Applicant respectfully requests the withdrawal of the rejection of claims 46 and 49-54 under §103(a).

Claim Rejections under 35 USC 103

I. The Office has rejected claims 31, 32, 37, 38, 40, 47-49 under 35 U.S.C. §103(a) as being unpatentable over Marz in view of Greier and further in view of U.S. Patent No. 6,344,837 ("Gelsey"). Applicants respectfully traverse the rejections.

As explained above, the cited portions of Marz and Greier do not disclose or suggest each and every element of independent claims 29 and 46 from which claim 31, 32, 37, 40, and 47-49 respectively depend. Gelsey does not disclose each of the elements of claims 29 and 46 that are not disclosed by Marz and Greier. For example, the cited portions of Gelsey fail to disclose or suggest, *wherein said compensation comprises using a different range of driving voltages for each pixel in a pixel group such that the T-V characteristic for each pixel in the group is closely matched.* Instead, Gelsey is merely cited for teaching a three dimensional display having a plurality of line sources of illumination. Hence claims 29 and 46 are allowable and claims 31, 32, 37, 40 and 47-49 are allowable, at least by virtue of their respective dependence from claims 29 and 46.

II. The Office has rejected claims 34 and 35 under 35 U.S.C. §103(a) as being unpatentable over Marz in view of Greier and further in view of U.S. Patent Application No. 2001/0028356 ("Balogh"). Applicants respectfully traverse the rejections.

As explained above, the cited portions of Marz and Greier do not disclose or suggest each and every element of independent claim 29 from which claim 34 and 35 depend. Balogh does not disclose each of the elements of claim 29 that are not disclosed by Marz and Greier. For example, the cited portions of Balogh fail to disclose or suggest, *wherein said compensation comprises using a different range of driving voltages for each pixel in a pixel group such that the* ***T-V characteristic*** *for each pixel in the group is closely matched.* Instead, Balogh is merely cited for teaching a three dimensional display

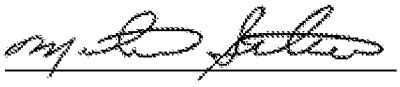
having a plurality of line sources of illumination. Hence claim 29 is allowable and claims 34 and 35 are allowable, at least by virtue of their respective dependence from claim 29.

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 29-54 are believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Mike Scaturro, Esq., Intellectual Property Counsel, Philips Electronics North America, at 516-414-2007.

Respectfully submitted,



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